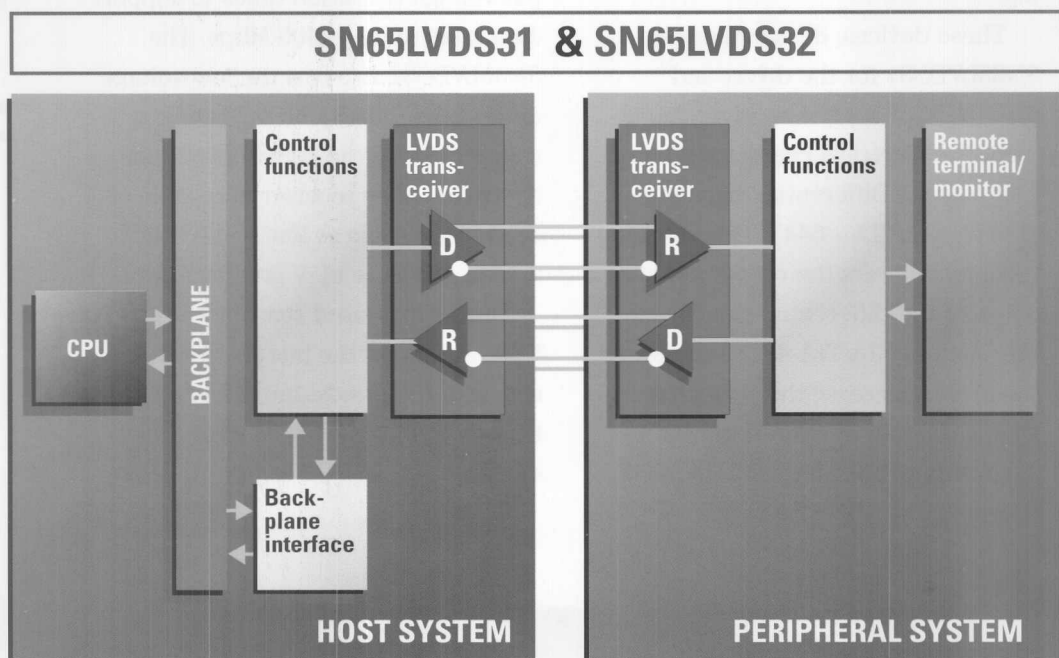


DATA TRANSMISSION

400-Mbps LVDS Data Transmission



A new quadruple differential line driver and receiver from Texas Instruments offers low power and 400-Mbps data rates for point-to-point baseband data transmission over controlled impedance media of 100 Ω .

(continued on page 2)

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Flatlink™ is TI's 3.3-V LVDS Solution for Flat Panel Display

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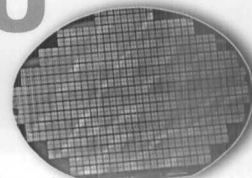
Single-ended to Differential SCSI Converter Chipset

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3.3-V PC/AT Serial Port with Charge Pump

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Selection Guide

Cross Reference



AT A GLANCE

- LVDS driver and receiver
- Single 3.3-V power supply
- Typical rise/fall times of 750 ps (400 Mbps)
- Power dissipation 100 mW typical with four drivers at 200 MHz
- Open-circuit fail safe receiver
- ESD exceeds 8 kV
- Characterized for operation from -40°C to 85°C

400-Mbps LVDS Data Transmission

(continued from cover)

The transmission media may be printed circuit board traces, backplanes or cables. This driver and receiver are ideal in applications such as telecommunications and computing.

These devices, designated the SN65LVDS31 for the driver and SN65LVDS32 for the receiver, implement the electrical characteristics of Low Voltage Differential Signaling (LVDS, EIA/TIA - 644). This signaling technique lowers the output voltage levels of 5-V differential standard levels (such as EIA/TIA-422B) to reduce the power, increase the switching speeds, and allow operation with a 3.3-V supply rail. The SN65LVDS31 accepts 3.3-V TTL/CMOS input levels

and transforms them using current-mode drivers to deliver a differential output into a $100\text{-}\Omega$ load. The driver has very low propagation delay times of 1.7 ns typically with sub-1-ns output voltage transition times to support data rates of up to 400 Mbps. The SN65LVDS32 receives the low voltage differential signals and outputs low-voltage TTL to the communications controller. The receiver is capable of detecting signals as low as $\pm 100\text{ mV}$ with as much as $\pm 1\text{-V}$ ground noise.

Due to increased susceptibility to ESD, events on the bus pins protection is of the utmost importance. Both products exceed an ESD rating of 8 kV.

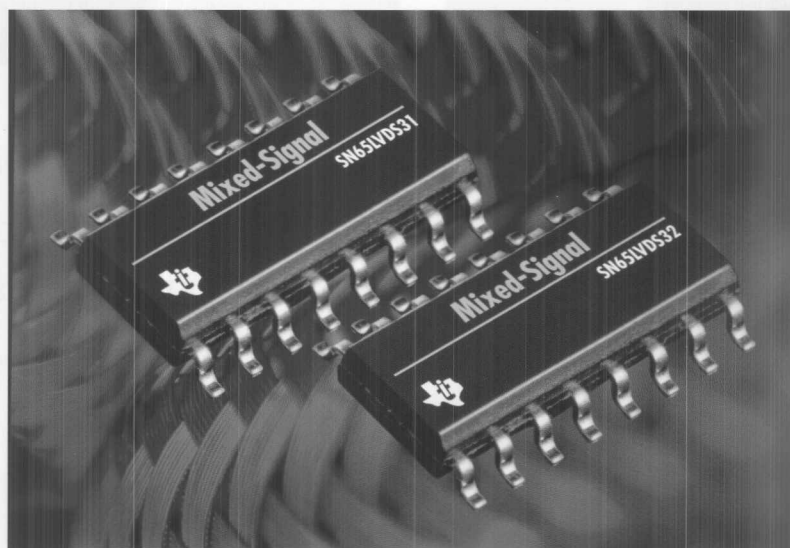
SN65LVDS31D

- \$3.47 in quantities of 1000

SN65LVDS32D

- \$3.47 in quantities of 1000

Both are available in a 16-pin SOIC package



For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

FlatLink™ is TI's 3.3-V LVDS Solution For Flat Panel Display

SN75LVDS81DGG

➤ \$6.15 in quantities of 1000

SN75LVDS82DGG

➤ \$6.15 in quantities of 1000

SN75LVDS83DGG

➤ \$6.13 in quantities of 1000

SN75LVDS84DGG

➤ \$6.13 in quantities of 1000

SN75LVDS85DGG

➤ \$6.13 in quantities of 1000

SN75LVDS86DGG

➤ \$6.13 in quantities of 1000

All available in TSSOP

FlatLink was developed to transfer display data and control signals from portable computer video display processors to flat-panel displays. FlatLink addresses the markets need of low power, high speed, and reduced noise emissions. These devices offer small differential voltage swings resulting in narrow, high bandwidth interface with minimal EMI. Although designed to address a specific application problem, FlatLink can be used to improve the performance of any wide parallel single-ended synchronous data connection.

The SN75LVDS81/82 were the industry's first 3.3-V transmitter/receiver devices satisfying the emerging LVDS (Low Voltage Differential Signaling) data interface standard. The SN75LVDS81 FlatLink transmitter features four 7-bit parallel-load serial-out shift registers, a 7x clock synthesizer, and five LVDS line drivers. These functions allow up to 28 bits of single-ended LVTTTL data to be synchronously transmitted over five balanced-pair conductors for receipt by a compatible receiver, the SN75LVDS82. The 3.3-V operation offers improved performance over

current market 5-V LVDS solutions. Recently, the SN75LVDS83, SN75LVDS84, SN75LVDS85, and SN75LVDS86 have been added to the FlatLink family of SN75LVDS81 and SN75LVDS82. These products operate with a single 3.3-V supply for lower power consumption. High data throughput is achieved by an internal 7x PLL which operates from a reference clock from 31 to 67 MHz. The SN75LVDS83 allows the user to select either positive-going or negative-going clock edge triggering. It has four 7-bit parallel-to-serial shift registers, PLL clock synthesizer, and five LVDS output buffers. The SN75LVDS84 and SN75LVDS85 are similar in architecture, but drop one of the parallel-to-serial shift registers and one output buffer, and fit in a 48-pin instead of the 56-pin package. The SN75LVDS86 is a companion receiver to the 'LVDS84 and 'LVDS85 transmitters, with three serial-to-parallel shift registers, PLL clock synthesizer and four LVDS input buffers.

AT A GLANCE

- 28:4(SN75LVDS81/83) or 21:3(SN75LVDS84/85) data channel compression
- 4:28(SN75LVDS82) or 3:21(SN75LVDS86) data channel expansion
- Single 3.3-V supply with 5-V tolerant inputs
- 227 Mbytes/sec
- Enhanced replacement for TTL buses
- Low EMI and low power (250 mW typical)
- Characterized for operation from 0°C to 70°C

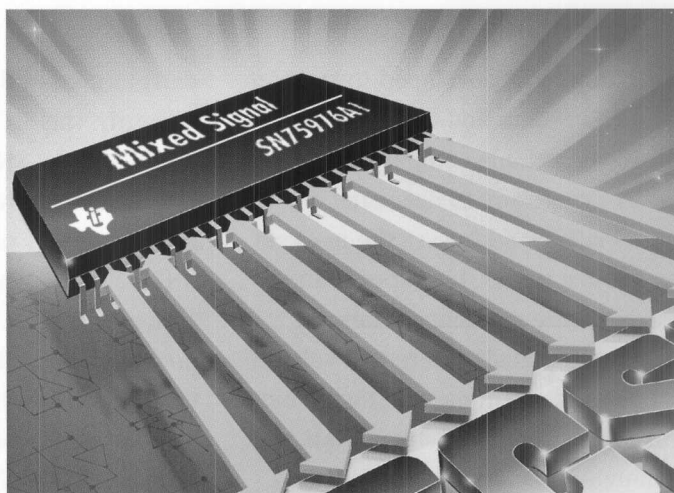
Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

Differential Transceiver Supports Fast-20 SCSI

The SN75976A is a nine-channel differential transceiver for SCSI bus applications achieving the speed requirements of Fast-20 SCSI, at 20 million transfers per second. This device is ideal for applications such as

Hard Disk drives and host adapter add-in boards that interface a computer system to a differential SCSI I/O subsystem.

SCSI is a parallel data bus, meaning data is transferred over the cable more than one bit at a time. Time variation of the defining voltage transitions is typically called skew and sometimes jitter. To account for skew and provide inter-operability between Fast-20 SCSI nodes, the standards specify minimum setup and hold times of the data with relation to the clocking signals. This requires that the



delay times of each line circuit be within a narrow range, the width of which determines the worst-case skew, or skew limit. The SN75976A is offered in two skew limits.

The SN75976A is available in the Thin Shrink Small-Outline Package (TSSOP) with 20-mil lead pitch. This reduces the board area by about 30% over that required by the Shrink Small-Outline package (SSOP) of the original SN75LBC976. It is also offered in the SSOP for a drop-in upgrade to existing designs.

SN75976A1DGG

➤ \$8.98 in quantities of 1000

SN75976A1DL

➤ \$8.40 in quantities of 1000

SN75976A2DGG

➤ \$12.34 in quantities of 1000

SN75976A2DL

➤ \$11.55 in quantities of 1000

Available in TSSOP with 20-mil lead pitch (DGG) and in SSOP (DL)

AT A GLANCE

- Operates at 20 million transfers per second (Fast-20 SCSI)
- Two skew-limits
- 12-kV ESD protection on bus pins
- Improved speed and package from the SN75LBC976
- Characterized for operation from 0°C to 70°C

Skew Limits

Device	Driver	Receiver	Application
SN75976A1	8 ns	9 ns	Fast-SCSI
SN75976A2	4 ns	5 ns	Fast-20 SCSI

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

Single-ended to Differential SCSI Converter Chipset

SN75LBC970ADL

➤ \$11.83 in quantities of 1000

SN75LBC971ADL

➤ \$10.36 in quantities of 1000

Both are available in 56-pin SSOP

Texas Instruments now offers a 16-bit solution, an adaptation of the industry's first 9-channel RS-485 transceiver, to convert single-ended SCSI to differential SCSI without host or target controller. The SN75LBC970A control transceiver and SN75LBC971A data transceiver chipset can cost-effectively provide the advantages of differential transmission to SCSI peripherals or hosts that currently do not have differential support from their protocol controllers.

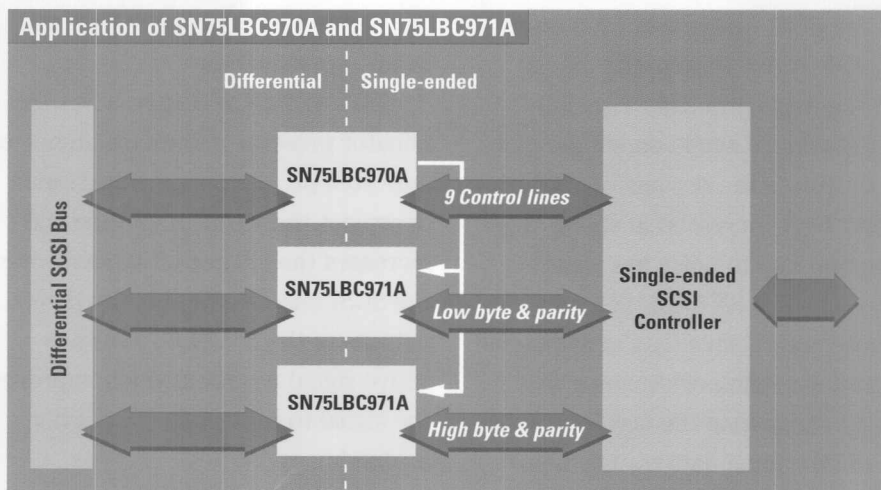
The chipset is well-suited for scenarios where the number of SCSI devices or the distance between them exceeds the capabilities of the single-end interface. The predominant applications are in high-end computing systems such as file and video servers, workstations, minicomputers, and

mainframes with peripherals including tape, optical, rigid magnetic disk drives, etc.

Single-ended to differential Wide Fast-SCSI bus can be achieved with just three devices, two data chips and one control chip. The generic block diagram shows this implementation. The chipset provides the exceptional electrical performance of differential SCSI from a single-end SCSI bus controller. Using the standard nine SCSI control signals, the SN75LBC970A control transceiver decodes the state of the bus, and enables the SN75LBC971A data transceiver(s) to transmit the single-ended SCSI signals differentially to the cable or receive the differential cable signals and drive the single-ended outputs to the controller.

AT A GLANCE

- Differential SCSI from single-ended controller
- Can extend SCSI bus to 25 meters
- Fast SCSI speeds of 10 Mtransfers/sec
- Meets/exceeds EIA-485 and ISO-8482 standards
- Characterized for operation from 0°C to 70°C



Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

Triple Bi-directional Fast-20 SCSI Transceiver

AT A GLANCE

- ☛ Three bi-directional transceivers
- ☛ Two skew limits available
- ☛ Designed to operate up to 20 million data transfers per second (Fast-20 SCSI)
- ☛ Designed for multipoint transmission on long bus lines in noisy environments
- ☛ Characterized for operation from 0°C to 70°C

The SN75ALS170A/171A provide a cost effective FAST-20 SCSI implementation. The SN75ALS170A/171A are triple differential bus transceivers based on TI's industry standard SN75ALS170 and SN75ALS171 (FAST-10 SCSI) products and meet or exceed the requirements for ANSI EIA/TIA-422-B, EIA-485 and ITU recommendation V.11. With the maximum pulse skew

device to device skew limit at 5 ns, the SN75ALS170A and SN75ALS171A are designed to operate up to 20 million data transfers per second and conform to the FAST-20 SCSI specification. These two devices are designed for fast multipoint transmission on long bus lines in noisy environments and feature independent driver enables and combined receiver enables for easier control and maximum flexibility.

SN75ALS170ADW

➤ \$5.06 in quantities of 1000

SN75ALS171ADW

➤ \$5.06 in quantities of 1000

Both are available in 20-pin wide body SOIC

Nine-channel SCSI Transceiver Helps Eliminate Noise Problems

AT A GLANCE

- ☛ Nine single-ended SCSI transceiver channels with active termination
- ☛ High speed: 10 million transfers per second (FAST SCSI)
- ☛ Low capacitance: 13.5 pF/node
- ☛ 3.3-V and 5-V logic interface
- ☛ Characterized for operation from 0°C to 70°C

The SN75LBC968 is a nine-channel SCSI transceiver integrated with active termination, it can solve the noise problems associated with high-speed single-ended parallel data buses. As the designs of SCSI bus systems have increased in speed, data corruption due to noise has also increased. The SN75LBC968 provides accurate and reliable data communication in these high performance systems by supporting the fast SCSI standard of 10 million data transfers per second. The device consists of nine

identical channels and conforms to the requirements of the SCSI-2 and SCSI-3 specifications.

The SN75LBC968 transceiver/terminator presents a low capacitance of only 13.5 pF. High node capacitance decreases the signal amplitude and increases the chance of data errors on the SCSI bus. In addition, the driver outputs of the SN75LBC968 have active signal negation which improves the signal to noise ratio on heavily loaded buses.

SN75LBC968DL

➤ \$9.00 in quantities of 1000

Available in space-saving 56-pin SSOP

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

RS-485 Transceiver with Integrated Protection

SN75LBC184P

➤ \$2.44 in quantities of 1000

SN75LBC184D

➤ \$2.44 in quantities of 1000

SN65LBC184P

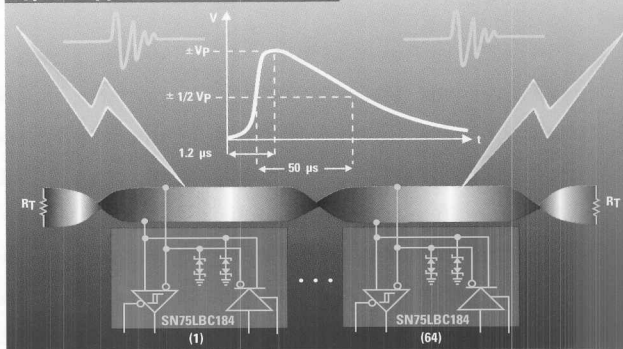
➤ \$2.50 in quantities of 1000

SN65LBC184D

➤ \$2.44 in quantities of 1000

Both are available in
8-pin DIP (P) and SOIC (D)

Typical application of SN75LBC184



The SN75LBC184 and SN65LBC184 are differential data line transceivers in the trade-standard footprint of the SN75LBC176 with built-in protection against high-energy noise transients. These devices are well-suited for electrically noisy environments requiring large over-voltage and common mode swing protection. The SN75LBC184 and SN65LBC184 provide substantial benefits for improved reliability and enhanced system performance resulting in total system cost savings.

- Transient voltage suppression – protection from large noise transients to reduce down time
- Integrated solution – on-chip to minimize cost and printed board-space requirement
- Controlled driver slew rates – for reduced EMI and improved data transmission at 250 kbps over longer unterminated cable runs and stub lengths

- Half unit load – for up to 64 similar devices connected on a bus
- Other features – open-circuit fail safe, thermal shutdown, power up/down glitch-free, and hysteresis
- Compatibility – drop-in replacement of current SN75LBC176

The SN75LBC184 and SN65LBC184 are cost-effective, footprint-compatible devices delivering a high level of bus protection without the need of external discrete clamping diodes and costly multi-chip modules. Typical application of these devices include: programmable logic controllers, industrial PCs, single-board computers, industrial LAN, automated test equipment, and telecommunications.

AT A GLANCE

- Ranked among EDN's "Hot 100" products of 1997
- Transceiver with integrated transient voltage protection
- Circuit damage protection of 400-W peak (typical)
- Controlled driver output voltage slew rates allows longer cable stub lengths
- 250-kbps throughput in electrically noisy environments
- Open-circuit fail-safe receiver design

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

RS-485 Transceiver with Fail-safe Features

AT A GLANCE

- Wide positive and negative input/output bus voltage ranges
- Driver output capability ± 60 mA (max)
- Receiver/input impedance 12 k Ω (min)
- Receiver input sensitivity ± 300 mV
- Operates from single 5-V supply
- Characterized for operation from 0°C to 70°C

The SN75276 differential bus transceiver was designed for differential bi-directional data links at data rates of 10 Mbps and is compatible with RS-485 and RS-422 applications. The transceiver is functionally equivalent to the industry standard. It is pin-for-pin compatible with the SN75176 and adds a fail-safe feature. This additional feature guarantees an output under bus fault conditions of

opens, shorts, and during idle bus periods. The SN75276 provides improved sensitivity on the receiver inputs over current fail-safe devices.

Typical application of these devices include telephone switching systems, industrial communications, computer interface, DTE to DCE communications, and party-line applications.

SN75276P

- \$1.08 in quantities of 1000

SN75276D

- \$1.08 in quantities of 1000

Available in DIP (P) and SOIC (D)

AT A GLANCE

- 32-MHz switching rate
- Operates from a single 3.3-V supply
- Propagation delay time for driver 8 ns (typ)
- Differential output voltage with 100- Ω load is 1.5 V (typ)
- Open-circuit fail safe
- 0.3-V to 5.5-V common-mode range with ± 200 -mV sensitivity for receiver
- Characterized for operation from 0°C to 70°C

3.3-V Drivers and Receivers

The AM26LV31 and AM26LV32 are 3.3-V quadruple line drivers and receivers, respectively, with the industry standard footprints of the popular AM26LS31 and AM26LS32. Both devices are compatible with the RS-422 standards. The AM26LV31/32 will provide a significant power reduction from the 5-V bipolar industry standard devices. In environments like telephone switch rooms, this power

savings will translate into reduced power requirements and reduced heat output which will save money on electricity, air conditioning and reduce maintenance costs for the entire system. The AM26LV31/32 will accept 5-V logic input while operating off the 3.3-V supply, maintaining backward compatibility with the 5-V AM26LV31/32 devices.

AM26LV31CD

- \$1.08 in quantities of 1000

AM26LV31CNSLE

- \$1.16 in quantities of 2000

AM26LV32CD

- \$1.08 in quantities of 1000

AM26LV32CNSLE

- \$1.16 in quantities of 2000

Both are available in SOIC (D) and left-ended taped-and-reeled SOP (NSLE)

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

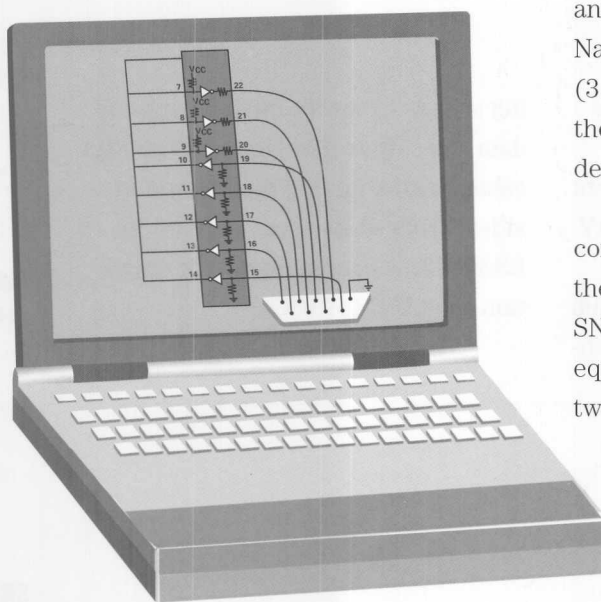
3.3-V PC/AT Serial Port with Charge Pump

SN75LV4737ADBLE

➤ \$2.59 in quantities of 1000

Available in left-ended taped-and-reeled SSOP (DBLE)

The SN75LV4737A is a charge-pump RS-232 device with three drivers and five receivers which provide a single-chip interface for an IBM PC/AT serial port. It is designed to be fully compliant with ANSI EIA/TIA-232-E standards. The SN75LV4737A provides advanced power management, the latest charge-pump technology, and supports data



rates up to 120 kbps over a 3-meter cable.

The SN75LV4737A operates from a single 3.3-V or 5-V supply, and accepts 5-V logic inputs even when operating from a 3.3-V supply. The charge-pump

requires just four small 0.1- μ F capacitors with a 5-V supply, or five capacitors with a 3.3-V supply. It is well suited for notebooks, palmtops, terminals, modems, and many other battery operated applications.

The SN75LV4737A decreases parts count, reduces board space requirements, and allows easy interconnection. The pin-out matches the design of its predecessor, the SN75LV4735, and is a drop-in replacement for the National Semiconductor DS14C335 (3.3 V) and DS14C535 (5 V) devices, thereby reducing the number of device types in inventory by 50%.

As power management and power conservation become bigger issues to the PC designer, parts such as the SN75LV4737A become required equipment. The SN75LV4737A has two power-down modes to extend battery life. The standby mode disables the entire device with a low current requirement of only 5 μ A. The wake-up mode allows one receiver to remain active during shut-down to enable the part when data is received, thus minimizing the risk of losing incoming data. In wake-up mode, the current consumption is only 10 μ A, which is very close to the leakage current of most batteries.

AT A GLANCE

- ☛ Wake-up mode: one receiver remains active during shut down (10 μ A max)
- ☛ Single 3.3-V or 5-V supply operation
- ☛ Single chip solution for DB9 PC serial interface (3 drivers/5 receivers)
- ☛ Supports data rates to 120 kbps over 3 m cable
- ☛ Accepts 5-V logic input with 3.3-V supply
- ☛ Characterized for operation from 0°C to 70°C

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

Lower Cost Peripheral RS-232 Solution

The SN75196 is a low cost rugged RS-232 device combining five drivers and three receivers with ESD protection in excess of 10 kV on the bus pins and 5 kV on all pins. The SN75196 is designed to be a single chip solution for the peripheral end of the RS-232 cable. The device compli-

ments the SN75185 which is designed for the PC end of the RS-232 cable and the pin-out allows flow-through board layout. The switching speeds of the SN75196 support data rates up to 120 kbps with cable lengths of 3 meters. It is characterized for operation from 0°C to 70°C.

SN75196N

➤ \$0.41 in quantities of 1000

SN75196DW

➤ \$0.41 in quantities of 1000

Available in 20-pin plastic dip and wide body SOIC

RS-232 Gets Cheaper and Easier

The TL145406 is a low cost bipolar RS-232 device combining three drivers and three receivers with ESD protection in excess of 5 kV on all pins. The pin-out matches the flow-through design of the SN75C1406 and Motorola's MC145406. The switch-

ing speeds of the TL145406 supports data rates up to 120 kbps with shorter cable lengths up to 3 meters and provides a rugged low-cost solution for RS-232. It is characterized for operation from 0°C to 70°C.

TL145406N

➤ \$0.50 in quantities of 1000

TL145406DW

➤ \$0.50 in quantities of 1000

Available in 16-pin plastic dip and wide body SOIC

Low Cost RS-232

The SN75185 is a bipolar RS-232 device combining three drivers and five receivers. The pin-out matches the flow-through design of the SN75C185 to decrease part count, reduce required board space, and allow easy interconnections. The 10-kV ESD protection increases relia-

bility and eliminates the need for external protection components. Switching speeds of the SN75185 are high enough to support rates up to 120 kbps with shorter cable lengths. It is characterized for operation from 0°C to 70°C.

SN75185N

➤ \$0.36 in quantities of 1000

SN75185DW

➤ \$0.36 in quantities of 1000

Available in 20-pin plastic dip and wide body SOIC

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

Single-chip Interface Solution for the 9-pin GeoPort™ Host

SN75LBC771DW

➤ \$1.12 in quantities of 1000

SN75LBC773DW

➤ \$1.12 in quantities of 1000

Both available in 20-pin wide body SOIC

The SN75LBC771 and SN75LBC773 are low-power LinBiCMOS™ devices that incorporate the drivers and receivers for a 9-pin GeoPort host interface. The SN75LBC771 and SN75LBC773 provide point-to-point connections between GeoPort-compatible devices with data transmission rates up to 4-Mbps full duplex featuring a hot-plug capability. This makes it ideal for applications such as high speed computer-to-digital telephone/PBX connections, digital still camera interfaces, and serial printer ports.

These transceivers are the link to the outside world and therefore the most vulnerable to hazards like ESD. The SN75LBC771 and SN75LBC773 help to minimize these types of risks with high ESD protection and current-limiting high-impedance outputs on shutdown and power-up. In addition, these devices consume 1/10 the power of comparable (35 mW typ) bipolar devices and a power down mode further reduces power consumption to 165 μ W (typ). Both devices operate at ± 5 -V supply.

AT A GLANCE

- Designed for 9-pin universal network bus applications
- Permit data transfer rates up to 4 Mbps
- ± 5 -V supply operation
- 6-kV ESD
- Consumes 1/10 the power of comparable bipolar devices (35 mW typ)
- Backwardly compatible to AppleTalk™ and LocalTalk™
- Characterized for operation from 0°C to 70°C

SN75LBC776DW

➤ \$2.31 in quantities of 1000

Available in 20-pin wide body SOIC

High-speed GeoPort Host Transceiver

The SN75LBC776 GeoPort transceivers is designed for 9-pin Universal Network Bus applications. It permits data transfer rates of up to 4 Mbps utilizing the GeoPort serial interface standard. This allows PC users to easily add telecommunications features requiring direct connections to high speed digital telephone/PBX systems, serial port interfaces and ordinary analog telephone lines.

The SN75LBC776 requires a single 5-V supply and generates its own negative supply using small 0.1- μ F charge pump capacitors. It provides a clear system cost advantage by reducing board space and external elements. The SN75LBC776 consumes 1/10 the power of comparable bipolar devices and it provides 6 kV of ESD protection.

AT A GLANCE

- Designed for 9-pin universal network bus applications
- Permits data transfer rates of up to 4 Mbps
- Single 5-V supply
- 6-kV ESD
- Consumes 1/10 the power of comparable bipolar devices (35 mW typ)
- Backwardly compatible to AppleTalk and LocalTalk
- Characterized for operation from 0°C to 70°C

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

High-Speed Peripheral GeoPort/AppleTalk™ Transceivers

AT A GLANCE

- Single-chip interface solution for the 9-pin GeoPort peripheral
- Designed to operate from 100-kbps up to 4-Mbps full duplex
- 10-kV ESD protection
- Single 5-V supply operation
- Characterized for operation from 0°C to 70°C

The SN75LBC777 is a low-power LinBiCMOS device that incorporates the drivers and receivers for a 9-pin GeoPort peripheral interface and a switched-capacitor voltage converter for single 5-V supply operation. This device provides point-to-point connections between GeoPort compatible devices with data transmission rates up to 4 Mbps full duplex over a 4-foot cable. The peripheral manufacturer may easily integrate high-speed Power

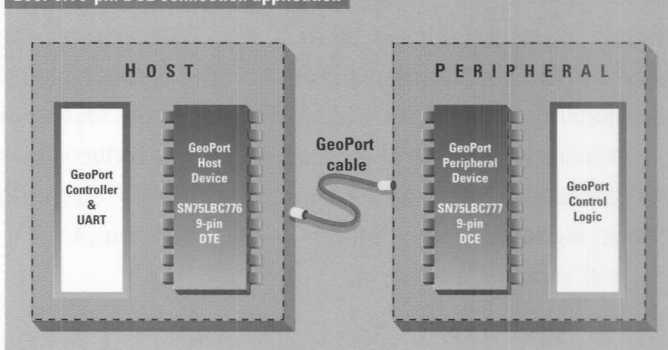
PC serial bus connections with a single transceiver that compliments the successful GeoPort/AppleTalk host transceivers, SN75LBC771, SN75LBC773 and SN75LBC776. With high ESD protection, these devices minimize costly field failures and allow hot plug-and-play features.

SN75LBC777DW

➤ \$2.31 in quantities of 1000

Available in 20-pin wide body SOIC

GeoPort 9-pin DCE connection application



AT A GLANCE

- Single chip solution for the AppleTalk or LocalTalk peripheral
- Supports data rates up to 1 Mbps
- ESD protection exceeds 8 kV on the bus pins and 4 kV on all pins
- Single 5-V supply voltage operation
- Characterized for operation from 0°C to 70°C

Single-chip Peripheral AppleTalk/LocalTalk™ Transceiver

The SN75LBC775 is a single 5-V supply peripheral AppleTalk/LocalTalk transceiver with two drivers and two receivers. The SN75LBC775 will operate up to 1 Mbps in either a point-to-point or networked environment and provides 4 kV of ESD protection with the Human Body Model. With TI's LinBiCMOS process, the SN75LBC775 only requires a maximum of 10-mA

supply current with no load. In order to prevent glitches while the power is off, the outputs of the drivers and receivers will remain in a high impedance state. The separate driver and receiver enable provides additional three-state options.

The SN75LBC775 is backward compatible with previous serial standards including RS-232.

SN75LBC775DW

➤ \$2.10 in quantities of 1000

Available in 20-pin wide body SOIC

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

TL16C750 UART with 64-byte FIFO Reduces CPU Interrupt Overhead

TL16C750FN

➤ \$5.25 in quantities of 1000

TL16C750PT

➤ \$4.95 in quantities of 1000

Both available in 44-pin PLCC and 64-pin TQFP

As modem data transfer rates increase to 28.8 Kbps and beyond, more and more demands are placed on the host CPU. To meet this demand for faster transmission, with fewer lost characters and systems crashes, Texas Instruments has developed the TL16C750 UART with 64-byte FIFO (First-In, First-Out) buffer.

The TL16C750 can hold more data before generating an interrupt request, which allows the CPU to con-

tinue working as data is transmitted. In addition, the device features hardware auto flow control which relieves the host CPU of having to monitor flow status information. This means that it only has to read interrupts and data, thus maximizing the system efficiency. For the low voltage and portable market, the device offers 5-V and 3-V operation, sleep mode and low power mode. These modes reduce power to the UART when no data is transmitted, in order to save energy.

AT A GLANCE

- Programmable 16- or 64-byte FIFOs
- Programmable auto flow control
- Selectable sleep and low power modes
- Up to 16-MHz clock rate for 1-Mbaud operation
- Characterized for operation from 0°C to 70°C
- Industrial temperature range (on PT pkg) -40°C to 85°C

TL16PIR552PH

➤ \$7.18 in quantities of 1000

Available in 80-pin QFP

TL16PIR552 Dual UART with IrDA and IEEE 1284

The TL16PIR552 dual-channel UART gives designers control of a three-port system with a single device.

The IrDA interface offers a simple, inexpensive way to cordlessly connect PCs, notebooks, peripherals and other electronic equipment.

Unlike most IrDA devices, the TL16PIR552 allows the user to select between RS-232 and infrared I/O for

the two serial ports. The device also has a 1284 parallel port supporting the Extended Capability Port (ECP) and Enhanced Parallel Port (EPP) protocols, as well as standard Centronics mode.

Other features include 116-byte FIFOs to reduce interrupts, auto flow control to relieve the CPU from monitoring status flow information, and data transmission rates up to 1 Mbps.

AT A GLANCE

- Dual 550 UART
- Selectable RS-232 and IrDA I/O's
- 1200 bps to 115 kbps IrDA interface
- 16-byte FIFOs and Auto Flow Control on the UARTs
- IEEE 1284 parallel port
- Characterized for operation from 0°C to 70°C

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

Low Cost IrDA Controller Offers Wireless Connection for PCs and Other Electronic Devices

The TIR1000 is an Infrared Data Association (IrDA) compatible infrared (IR) controller which offers a simple, cost effective "wireless" connection for PC's, notebooks, peripherals, and other electronic devices. The TIR1000 interfaces directly to a Universal Asynchronous Receiver/ Transmitter (UART) to receive serial data, it then transfers this data at a maximum rate of 115.2 kbps to an IrDA compatible transceiver. The transceiver then transmits the data to another IrDA compatible system.

The TIR1000 operates at both 3 and 5 V giving it the ability to function in low power systems such as portable and handheld devices. The TIR1000 also decodes negative and positive transceiver pulses giving it the flexibility to operate with a variety of IrDA compatible transceivers. The TIR1000, connects seamlessly to a UART and transceiver with no extra glue logic needed reducing board space and cost.

TIR1000PWLE

➤ \$1.15 in quantities of 1000

TIR1000PSLE

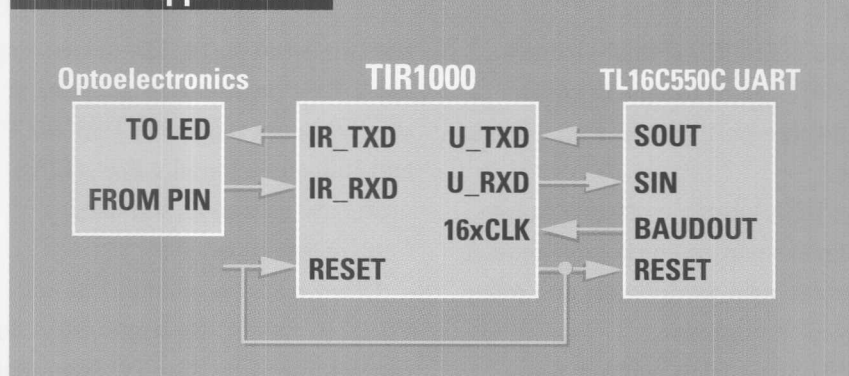
➤ \$1.15 in quantities of 1000

Available in 20-pin wide body SOIC

AT A GLANCE

- IrDA compatible
- 1200-bps to 115.2-kbps data rate
- 3-V to 5-V operation
- Decodes negative or positive pulses
- Characterized for operation from 0°C to 70°C

TIR1000 Application



For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

400-Mbps IrDA Controller

TIR2000PAG

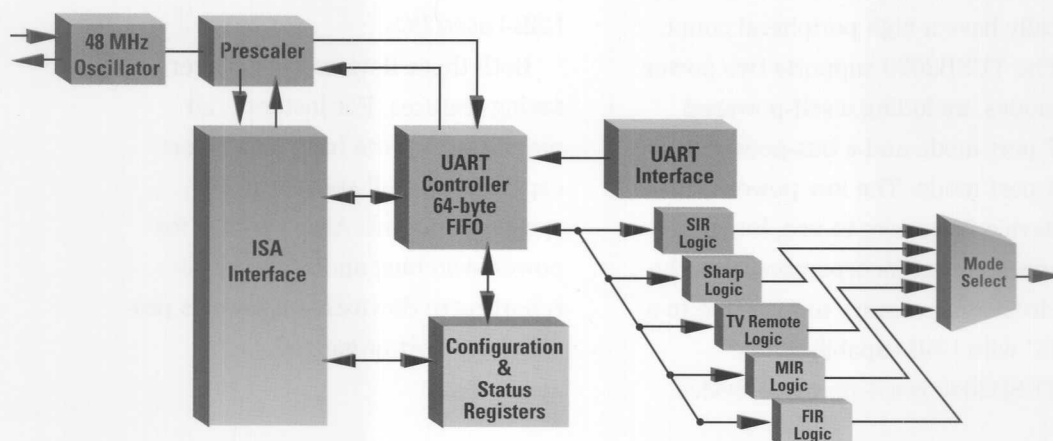
➤ \$6.46 in quantities of 1000

Available in small 64-pin TQFP package

The TIR2000 is a high-speed infrared controller that supports transfer rates up to 4 Mbps. Functionally, it serves as an interface between the host system's ISA bus and the infrared transceiver by encoding and decoding IR information in accordance with IrDA standard 1.1. This device also supports amplitude shift keying (ASK) and TV remote control modes.

The standard ensures physical and protocol compatibility among computer and peripheral vendors. IrDA is the way to cordlessly connect PCs, notebooks and peripherals. Beyond the PC and peripheral market, IR can also be found in telephony, consumer, industrial and automotive systems.

In addition, the TIR2000 has several features that provide a competitive advantage. The controller has selectable 16- or 64- byte FIFOs to increase system efficiency and speed. It also supports 11 IRQ options and three DMA configurations to offer the customer flexibility to use either Interrupt or DMA mode for data transfer, and also gives several options of interrupt lines or DMA channels to use in each mode. The TIR2000 is also ideal for battery powered systems with advanced power management and 3.3- or 5-V operation. In notebook PCs, PC peripherals, and handheld applications the TIR2000 saves valuable board space with its small 64-pin TQFP package.



Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

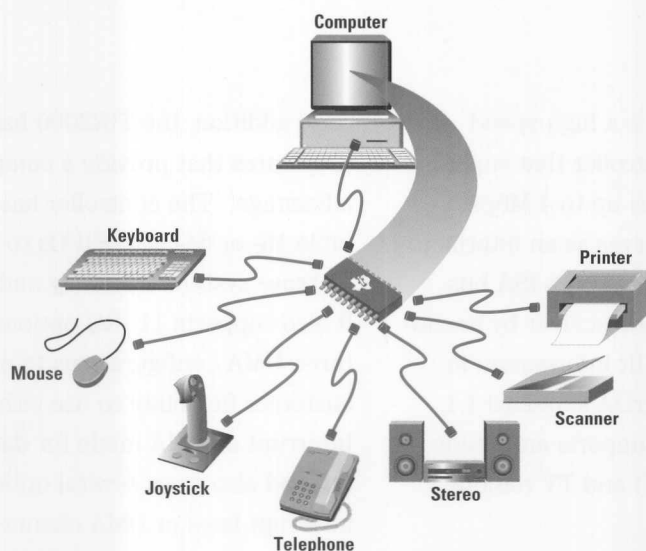
AT A GLANCE

- Fully Compliant with IrDA standard 1.1
- Selectable 16- or 64-byte FIFOs
- Power Management support, 3.3-V or 5-V operation
- Small 64-pin TQFP packaging
- Windows SW drivers available

Universal Serial Bus (USB) Hub Solutions

AT A GLANCE

- ☛ Full compliance to USB standard
- ☛ Integrated USB transceivers
- ☛ 3.3-V Operation
- ☛ Supports self-powered and bus powered mode
- ☛ Power dissipation of 33 mW
- ☛ Suspend mode power is 3.3 mW
- ☛ Characterized for operation from 0°C to 70°C



Introducing two new hub devices, TUSB2040 and TUSB2070, that offer the full advantage of flexibility, expandability and ease of use of Universal Serial Bus (USB). The TUSB2070 is the industry's first seven port hub device and is ideal for home and small office computers that typically have a high peripheral count. The TUSB2070 supports two power modes, including a self-powered 7-port mode and a bus-powered 4-port mode. The low-power, 3.3-V device is an easy-to-use, integrated solution that incorporates all of the circuitry necessary to interface to a PC with USB capability. The TUSB2040 is a 4-port hub device

designed to offer maximum cost efficiency to USB users with lower peripheral requirements. Like the TUSB2070, this 3.3-V device enables maximum power savings with self-powered and bus-powered modes. It also integrates the same circuitry for easy interface to next-generation USB-based PCs.

Both these devices offer power saving features. For instance, all downstream ports have autodetect capability for full-speed and low-speed operations. Also, support for power switching and overcurrent reporting to downstream ports is provided per port or ganged.

TUSB2040PT

- \$3.20 in quantities of 1000

TUSB2040N

- \$3.15 in quantities of 1000

TUSB2070PT

- \$3.42 in quantities of 1000

Available in 28-pin DIP and 48-pin TQFP

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

IEEE-1394 General Purpose Link Layer Controller

TSB12LV31PZ

➤ \$9.25 in quantities of 1000

Available in 100-pin TQFP package

The TSB12LV31 link-layer device from Texas Instruments was designed to merge consumer electronics and computer peripherals by greatly simplifying the implementation of the 1394 high performance serial bus. The TSB12LV31 provides 1394 connection for peripherals with minimum support circuitry.

The device performs bi-directional asynchronous and isochronous data transfers to and from an IEEE-1394 serial bus physical layer device (PHY). 1394 isochronous bandwidth is guaranteed on-demand to specified applications, assuring a constant flow of data for time-critical applications. In addition, an internal 200-byte FIFO is

provided on the TSB12LV31 to facilitate asynchronous and isochronous operations.

The programmable 8/16-bit mcontroller interface offers flexibility in selection of the controller and making the TSB12LV31 compatible with a wide selection of standard mcontrollers and DSPs. It also features a single channel data mover support for isochronous transmit from unbuffered 8-bit isochronous port.

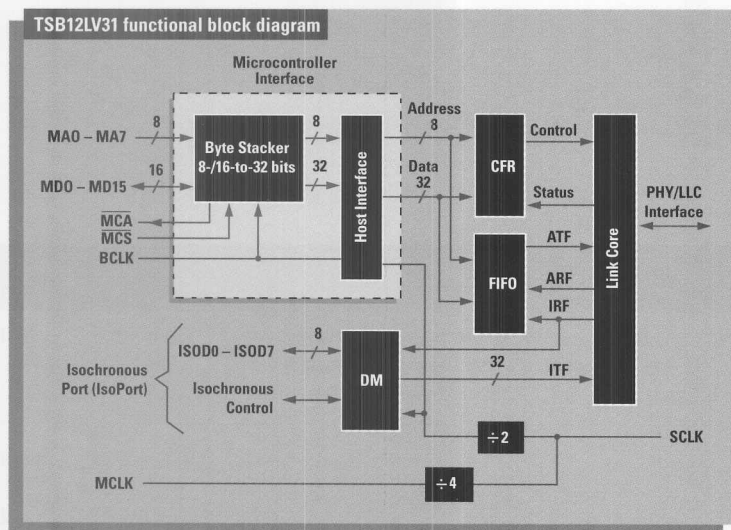
The TSB12LV31 is a general purpose 1394 link-layer device often referred to as GPLynx. The device is tailored and optimized for use as a peripheral link-layer controller (LLC). With its 3.3-V supply operation, the

GPLynx offers low-power consumption making it well-suited for target applications such as:

- Consumer Electronics: digital cameras, televisions, CD players, tape decks
- Computer Peripherals: printers, scanners, CD ROM drives, hard disk drives, digital video disk (DVD)

AT A GLANCE

- Supports IEEE 1394-1995 standard for transfer rates of 100 and 200 Mbps
- Compatible with TI TSB11LV01 and TSB21LV03 physical layer controllers
- Single 3.3-V operation with 5-V tolerant capabilities
- Programmable mcontroller interface with 8/16-bit data bus, 3 operation modes, clock frequency to 50 MHz
- 50-Quadlet (200 bytes) FIFO for asynchronous and isochronous operations
- High performance 100-pin PZ package (TQFP)
- Characterized for operation from 0°C to 70°C



Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

TIA/EIA-644 (LVDS) Standard Selection Guide

Device	Description	Driver Per Pkg.	Driver tpd (ns)	Receiver Per Pkg.	Receiver tpd (ns)	ICC (mA)	Supply Voltage(s) (V)	Footprint	Military
SN65LVDS31	Quadruple Differential Driver	4	1.7			9	3.3	AM26LS31	NO
SN65LVDS32	Quadruple Differential Receiver			4	2.2	10	3.3	AM26LS32	NO
SN75LVDS81	28-bit Data Compression to LVDS	5	14.2			72	3.3	DS90C581	NO
SN75LVDS83	28-bit Data Compression to LVDS	5	14.2			72	3.3	DS90C581	NO
SN75LVDS82	LVDS Decompression to 28-bit Data			5	8.7	74	3.3	DS90C582	NO
SN75LVDS84	21-bit Data Compression to LVDS	5	14.2			68	3.3	DS90C561	NO
SN75LVDS85	21-bit Data Compression to LVDS	5	14.2			68	3.3	DS90C561	NO
SN75LVDS86	LVDS Decompression to 21-bit Data			5	8.7	69	3.3	DS90C562	NO

AppleTalk/GeoPort Selection Guide

Device	Drivers Per Pkg.	Receivers Per Pkg.	Supply Voltage(s) (V)	Footprint
SN75LBC771	2	3	± 5	SN75LBC776
SN75LBC773	2	3	± 5	SN75LBC776
SN75LBC776	2	3	+ 5	SN75LBC776
SN75LBC775	2	2	+ 5	SN75LBC775
SN75LBC777	3	2	+ 5	SN75LBC777

TIA/EIA-423-B Standard Selection Guide

Device	Description	Drivers Per Package	Receivers Per Package	Supply Voltage(s) (V)	Footprint	Military
SN75LBC784	Quadruple RS-423-B Driver/Receiver	4	4		SN75LBC784	NO
SN75LBC786	Quadruple RS-423-B Driver/Receiver with Loopback	4	4		SN75LBC786	NO
μA9636A	Dual Line Driver with Adjustable Slew Rate	2		± 12	μA9636	NO
All TIA/EIA-422 Receivers Apply to TIA/EIA-423						

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

TIA/EIA-422-B Standard Selection Guide

Device	Description	Drivers Per Pkg.	Driver tpd (ns)	Receivers Per Pkg.	Receiver tpd (ns)	I _{CC} (max all channels) (mA)	Footprint	Military
AM26LS31	Quadruple Differential Line Driver	4	20			80	AM26LS31	BOTH
AM26C31	Quadruple Differential Line Driver	4	27			3	AM26LS31	BOTH
SN75172	Quadruple Differential Line Driver	4	65			60	AM26LS31	NO
SN65ALS172A	Quadruple Differential Line Driver	4	22			55	AM26LS31	NO
SN75ALS172A	Quadruple Differential Line Driver	4	22			55	AM26LS31	NO
SN55ALS192	Quadruple Differential Line Driver	4	14			45	AM26LS31	NO
SN75ALS192	Quadruple Differential Line Driver	4	14			45	AM26LS31	NO
AM26LV31	Low-voltage High Speed Quadruple Differential Line Driver	4	12			0.1	AM26LV31	NO
MC3487	Quadruple Differential Line Driver	4	20			85	MC3487	NO
SN75174	Quadruple Differential Line Driver	4	65			60	MC3487	NO
SN65ALS174A	Quadruple Differential Line Driver	4	22			55	MC3487	NO
SN75ALS174A	Quadruple Differential Line Driver	4	22			55	MC3487	NO
SN55ALS194	Quadruple Differential Line Driver	4	14			45	MC3487	YES
SN75ALS194	Quadruple Differential Line Driver	4	14			45	MC3487	NO
μA9638	Dual High-speed Differential Line Driver	2	15			65	μA9638	NO
SN75ALS191	Dual Differential Line Driver	2	7			40	μA9638	NO
SN75158	Dual Differential Line Driver	2	25			50	SN75158	NO
SN75159	Dual Differential Line Driver with 3-state Outputs	2	25			65	SN75159	NO
AM26LS32A	Quadruple Differential Line Receiver			4	35	70	AM26LS32	BOTH
AM26C32	Quadruple Differential Line Receiver			4	27	15	AM26LS32	BOTH
SN55173	Quadruple Differential Line Receiver			4	35	70	AM26LS32	YES
SN65173	Quadruple Differential Line Receiver			4	35	70	AM26LS32	NO
SN75173	Quadruple Differential Line Receiver			4	35	70	AM26LS32	NO
SN75ALS173	Quadruple Differential Line Receiver			4	27	27	AM26LS32	NO
SN75ALS193	Quadruple Differential Line Receiver			4	22	35	AM26LS32	NO
SN75ALS197	Quadruple Differential Line Receiver			4	15	22	AM26LS32	NO
AM26LV32	Low-voltage High Speed Quadruple Differential Line Receiver			4	20	17	AM26LV32	NO
MC3486	Quadruple Differential Line Receiver with 3-state Outputs			4	35	85	MC3486	NO
SN65175	Quadruple Differential Line Receiver			4	35	70	MC3486	NO
SN75175	Quadruple Differential Line Receiver			4	35	70	MC3486	NO
SN75ALS175	Quadruple Differential Line Receiver			4	27	27	MC3486	NO

Con't next page

TIA/EIA-422-B Standard Selection Guide (Con't)

Device	Description	Drivers Per Pkg.	Driver tpd (ns)	Receivers Per Pkg.	Receiver tpd (ns)	I _{CC} (max all channels) (mA)	Footprint	Military
SN55ALS195	Quadruple Differential Line Receiver			4	22	35	MC3486	NO
SN75ALS195	Quadruple Differential Line Receiver			4	22	35	MC3486	NO
SN75ALS199	Quadruple Differential Line Receiver			4	15	22	MC3486	NO
SN75146	Dual Differential Line Receiver			2	300	50	μA9637	NO
SN75157	Dual Differential Line Receiver			2	25	50	SN75157	NO
μA9637A	Dual Differential Line Receiver			2	25	50	μA9637	NO
μA9639	Dual Differential Line Receiver			2	85	50	μA9639	NO
SN75ALS170	Triple Differential Bus Transceiver	3	13	3	19	90	SN75ALS170	BOTH
SN75ALS170A	Triple Differential Bus Transceiver	3	10.5	3	19	90	SN75ALS170	BOTH
SN75ALS171	Triple Differential Bus Transceiver	3	13	3	19	90	SN75ALS171	BOTH
SN75ALS171A	Triple Differential Bus Transceiver	3	11	3	19	90	SN75ALS171	BOTH
SN751711	Triple Differential Bus Transceiver	3	15	3	20	72	SN75ALS171	NO
SN751177	Dual Differential Drivers and Receivers	2	35	2	35	110	MC34050	NO
SN65C1167	Dual Differential Drivers and Receivers	2	12	2	27	9	MC34050	NO
SN75C1167	Dual Differential Drivers and Receivers	2	12	2	27	9	MC34050	NO
SN75ALS1177	Dual Differential Drivers and Receivers	2	22	2	37	50	MC34050	NO
SN751178	Dual Differential Drivers and Receivers	2	35	2	35	110	MC34051	NO
SN65C1168	Dual Differential Drivers and Receivers	2	12	2	27	9	MC34051	NO
SN75C1168	Dual Differential Drivers and Receivers	2	12	2	27	9	MC34051	NO
SN75ALS1178	Dual Differential Drivers and Receivers	2	22	2	22	50	MC34051	NO
SN75176A	Differential Bus Transreceiver	1	60	1	35	50	SN75176	NO
SN75176B	Differential Bus Transreceiver	1	22	1	35	55	SN75176	NO
SN95176B	Differential Bus Transreceiver	1	22	1	35	70	SN75176	YES
SN65ALS176	Differential Bus Transreceiver	1	13	1	19	30	SN75176	NO
SN75ALS176	Differential Bus Transreceiver	1	13	1	19	30	SN75176	NO
SN75ALS176A	Differential Bus Transreceiver	1	11.5	1	18	30	SN75176	NO
SN75ALS176B	Differential Bus Transreceiver	1	10	1	16.5	30	SN75176	NO
TL3695	Differential Bus Transreceiver	1	22	1	37	50	SN75176	NO
SN75179B	Differential Driver and Receiver Pair	1	22	1	40	70	SN75179	NO
SN75LBC179	Low-power Differential Line Driver and Receiver Pair	1	18	1	30	5	SN75179	NO
SN65ALS180	Differential Driver and Receiver Pair	1	13	1	19	30	SN75ALS180	NO
SN75ALS180	Differential Driver and Receiver Pair	1	13	1	19	30	SN75ALS180	NO
SN75LBC180	Low-power Differential Line Driver and Receiver Pair	1	18	1	30	3	SN75LBC180	NO

EIA-RS-485 Standard Selection Guide

Device	Description	Drivers Per Pkg.	Receivers Per Pkg.	I _{CC} (mA)	Footprint	Military
SN75174	Quadruple Differential Line Driver	4		60	MC3487	NO
SN75ALS174A	Quadruple Differential Line Driver	4		55	MC3487	NO
SN55LBC174	Quadruple Low-power Differential Line Driver	4		7	MC3487	YES
SN65LBC174	Quadruple Low-power Differential Line Driver	4		7	MC3487	NO
SN75LBC174	Quadruple Low-power Differential Line Driver	4		7	MC3487	NO
SN75172	Quadruple Differential Line Driver	4		60	AM26LS31	NO
SN65ALS172A	Quadruple Differential Line Driver	4		55	AM26LS31	NO
SN75ALS172A	Quadruple Differential Line Driver	4		55	AM26LS31	NO
SN55LBC172	Quadruple Low-power Differential Line Driver	4		7	AM26LS31	YES
SN65LBC172	Quadruple Low-power Differential Line Driver	4		7	AM26LS31	NO
SN75LBC172	Quadruple Low-power Differential Line Driver	4		7	AM26LS31	NO
SN65175	Quadruple Differential Line Receiver		4	70	MC3486	NO
SN75175	Quadruple Differential Line Receiver		4	70	MC3486	NO
SN75ALS175	Quadruple Differential Line Receiver		4	27	MC3486	NO
SN55LBC175	Quadruple Low-power Differential Line Receiver		4	11	MC3486	YES
SN65LBC175	Quadruple Low-power Differential Line Receiver		4	11	MC3486	NO
SN75LBC175	Quadruple Low-power Differential Line Receiver		4	11	MC3486	NO
SN55173	Quadruple Differential Line Receiver		4	70	AM26LS32	YES
SN65173	Quadruple Differential Line Receiver		4	70	AM26LS32	NO
SN75173	Quadruple Differential Line Receiver		4	70	AM26LS32	NO
SN75ALS173	Quadruple Differential Line Receiver		4	27	AM26LS32	NO
SN55LBC173	Quadruple Low-power Differential Line Receiver		4	11	AM26LS32	YES
SN65LBC173	Quadruple Low-power Differential Line Receiver		4	11	AM26LS32	NO
SN75LBC173	Quadruple Low-power Differential Line Receiver		4	11	AM26LS32	NO
SN75976A	9-Channel Differential Transceiver	9	9	60	SN75LBC976	BOTH
SN75LBC968	9-Channel Bus Transceiver with Active Termination	9	9	45	SN75LBC968	NO
SN75LBC978	9-Channel Differential Transceiver	9	9	45	SN75LBC978	NO
SN75LBC971A	SCSI Differential Converter - Data Transceiver	9	9	33	SN75LBC971	NO
SN75LBC970A	SCSI Differential Converter - Control Transceiver	9	9	94	SN75LBC970	NO

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datasheets at: www.ti.com/sc/sine-on

EIA-RS-485 Standard Selection Guide (Con't)

Device	Description	Drivers Per Pkg.	Receivers Per Pkg.	I _{CC} (mA)	Footprint	Military
SN75ALS170	Triple Differential Bus Transceiver	3	3	90	SN75ALS170	BOTH
SN75ALS170A	Triple Differential Bus Transceiver	3	3	90	SN75ALS170	BOTH
SN751711	Triple Differential Bus Transceiver	3	3	72	SN75ALS171	NO
SN75ALS171	Triple Differential Bus Transceiver	3	3	90	SN75ALS171	BOTH
SN75ALS171A	Triple Differential Bus Transceiver	3	3	90	SN75ALS171	BOTH
SN751177	Dual Differential Drivers and Receivers	2	2	110	MC34050	NO
SN75ALS1177	Dual Differential Drivers and Receivers	2	2	50	MC34050	NO
SN751178	Dual Differential Drivers and Receivers	2	2	110	MC34051	NO
SN75ALS1178	Dual Differential Drivers and Receivers	2	2	50	MC34051	NO
TL3695	Differential Bus Transreceiver	1	1	50	SN75176	NO
SN75176A	Differential Bus Transreceiver	1	1	50	SN75176	NO
SN65176B	Differential Bus Transreceiver	1	1	55	SN75176	NO
SN75176B	Differential Bus Transreceiver	1	1	55	SN75176	NO
SN95176B	Differential Bus Transreceiver	1	1	70	SN75176	YES
SN75ALS176	Differential Bus Transreceiver	1	1	30	SN75176	NO
SN75ALS176A	Differential Bus Transreceiver	1	1	30	SN75176	NO
SN75ALS176B	Differential Bus Transreceiver	1	1	30	SN75176	NO
SN55LBC176	Differential Bus Transreceiver	1	1	5.4	SN75176	YES
SN65LBC176	Differential Bus Transreceiver	1	1	5.4	SN75176	NO
SN75LBC176	Differential Bus Transreceiver	1	1	5.4	SN75176	NO
SN75LBC184	Transient Voltage Suppression Differential Transceivers	1	1	16	SN75176	NO
SN75276	Fail-safe Differential Bus Transceiver	1	1	60	SN75176	NO
SN75179B	Differential Driver and Receiver Pair	1	1	70	SN75179	NO
SN65LBC179	Low-power Differential Line Driver and Receiver Pair	1	1	4.2	SN75179	NO
SN75LBC179	Low-power Differential Line Driver and Receiver Pair	1	1	4.2	SN75179	NO
SN65ALS180	Differential Driver and Receiver Pair	1	1	55	SN75ALS180	NO
SN75ALS180	Differential Driver and Receiver Pair	1	1	55	SN75ALS180	NO
SN65LBC180	Low-power Differential Line Driver and Receiver Pair	1	1	4	SN75LBC180	NO
SN75LBC180	Low-power Differential Line Driver and Receiver Pair	1	1	4	SN75LBC180	NO

For technical support, call (972) 644-5580.

To order documentation, call 1-800-477-8924, ext. 3232

TIA/EIA-232-F Standard Selection Guide

Device	Description	Drivers Per Pkg.	Receivers Per Pkg.	Supply Voltage(s) (V)	Footprint	Military
LT1030	Quadruple Low-power Line Driver	4		$\pm 5, \pm 15$	LT1030	NO
MC1488	Quadruple Line Driver	4		± 9	MC1488	NO
SN55188	Quadruple Line Driver	4		± 9	MC1488	YES
SN75188	Quadruple Line Driver	4		± 9	MC1488	NO
SN65C188	Quadruple Low-power Line Driver	4		± 12	MC1488	NO
SN75C188	Quadruple Low-power Line Driver	4		± 12	MC1488	NO
SN65C198	Quadruple Low-power Line Driver	4		± 12	SN75C198	NO
SN75C198	Quadruple Low-power Line Driver	4		± 12	SN75C198	NO
μ A9636A	Dual Line Driver with Adjustable Slew Rate	2		± 12	μ A9636	NO
SN75150	Dual Line Driver	2		± 12	SN75150	NO
SN75154	Quadruple Line Receiver		4	5 or 12	SN75154	NO
MC1489	Quadruple Line Receiver		4	5	MC1489	NO
MC1489A	Quadruple Line Receiver		4	5	MC1489	NO
SN55189	Quadruple Line Receiver		4	5	MC1489	YES
SN75189	Quadruple Line Receiver		4	5	MC1489	NO
SN55189A	Quadruple Line Receiver		4	5	MC1489	YES
SN75189A	Quadruple Line Receiver		4	5	MC1489	NO
SN65C189	Quadruple Low-power Line Receiver		4	5	MC1489	NO
SN65C189A	Quadruple Low-power Line Receiver		4	5	MC1489	NO
SN75C189	Quadruple Low-power Line Receiver		4	5	MC1489	NO
SN75C189A	Quadruple Low-power Line Receiver		4	5	MC1489	NO
SN75196	Multiple Driver and Receiver	5	3	$\pm 12, 5$	SN75196	NO
SN75LBC241	Low-power LinBiCMOS Multiple Drivers and Receivers	4	5	5	MAX241	NO
SN75186	Quadruple Driver/Receiver with Loopback	4	4	$\pm 12, 5$	SN75186	NO
SN65C1154	Multichannel Line Driver/Receiver	4	4	$\pm 12, 5$	SN75C1154	NO
SN75C1154	Multichannel Line Driver/Receiver	4	4	$\pm 12, 5$	SN75C1154	NO
SN75LV4737A	3.3-V/5-V Multichannel Line Driver/Receiver	3	5	3 or 5	SN75LV4737A	NO
SN75LBC187	Multichannel Driver/Receiver with Charge Pump	3	5	5	SN75LBC187	NO
SN65C185	Low-power Multiple Drivers and Receivers	3	5	$\pm 12, 5$	SN75C185	NO
SN75C185	Low-power Multiple Drivers and Receivers	3	5	$\pm 12, 5$	SN75C185	NO
SN75185	Multiple Drivers and Receivers	3	5	$\pm 12, 5$	SN75185	NO
SN65C1406	Triple Low-power Drivers and Receivers	3	3	$\pm 12, 5$	MC14506	NO
SN75C1406	Triple Low-power Drivers and Receivers	3	3	$\pm 12, 5$	MC14506	NO
TL145406	Triple Drivers/Receivers	3	3	$\pm 12, 5$	MC14506	NO
MAX232	Dual2 Driver/Receiver	2	2	5	MAX232	NO
SN75155	Line Driver and Receiver	1	1	± 12	SN75155	NO

Read Sine-On online and download
datasheets at: www.ti.com/sc/sine-on

IEEE 488, 802.3, and 896.1 Standard Selection Guide

Attributes	Device	Description	Drivers Per Pkg.	Footprint	Receivers Per Pkg.	Military
IEEE 488 (GPIB)	SN75160B	Octal General-purpose Interface Bus Transceiver	8	SN75160	8	NO
IEEE 488 (GPIB)	SN55ALS160	Octal General-purpose Interface Bus Transceiver	8	SN75160	8	YES
IEEE 488 (GPIB)	SN75ALS160	Octal General-purpose Interface Bus Transceiver	8	SN75160	8	NO
IEEE 488 (GPIB)	SN75161B	Octal General-purpose Interface Bus Transceiver	8	SN75161	8	NO
IEEE 488 (GPIB)	SN55ALS161	Octal General-purpose Interface Bus Transceiver	8	SN75161	8	YES
IEEE 488 (GPIB)	SN75ALS161	Octal General-purpose Interface Bus Transceiver	8	SN75161	8	NO
IEEE 488 (GPIB)	SN75162B	Octal General-purpose Interface Bus Transceiver	8	SN75162	8	NO
IEEE 488 (GPIB)	SN75ALS162	Octal General-purpose Interface Bus Transceiver	8	SN75162	8	NO
IEEE 802.3	SN75ALS085	LAN Access Unit Interface Dual Driver/Receiver	2	SN75ALS085	2	NO
IEEE 896.1	SN75ALS053	Quadruple Futurebus Transceiver	4	DS3893	4	NO
IEEE 896.1	SN55ALS056	Trapezoidal-waveform Interface Bus Transceiver	8	DS3896	8	NO
IEEE 896.1	SN75ALS056	Trapezoidal-waveform Interface Bus Transceiver	8	DS3896	8	NO
IEEE 896.1	SN55ALS057	Trapezoidal-waveform Interface Bus Transceiver	4	DS3897	4	NO
IEEE 896.1	SN75ALS057	Trapezoidal-waveform Interface Bus Transceiver	4	DS3897	4	NO

IBM 360/370 Standard Selection Guide

Device	Description	Drivers Per Pkg.	Footprint	Receivers Per Pkg.	Military
SN75130	Quadruple Line Driver	4	SN75130		NO
SN75123	Dual Line Driver	2	SN75123		NO
SN75124	Triple Line Receiver		N8T24	3	NO
SN75128	Eight-Channel Line Receivers		SN75128	8	NO
SN75129	Eight-Channel Line Receivers		SN75129	8	NO
SN751730	Triple Line Driver/Receiver	3	SN751730	3	NO

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To order documentation, call 1-800-477-8924, ext. 3232

General Purpose Transmitters/Receivers Selection Guide

Device	Description	Drivers Per Pkg.	Receiver Per Pkg.	Footprint	Type of Line Circuit	Military
DS8830	Quadruple Differential Line Driver	2		DS8830	Differential, Voltage Mode	NO
SN55183	Quadruple Differential Line Driver	2		DS8830	Differential, Voltage Mode	YES
SN75183	Quadruple Differential Line Driver	2		DS8830	Differential, Voltage Mode	NO
SN55109A	Dual Line Driver	2		SN75109	Differential, Current Mode	YES
SN75109A	Dual Line Driver	2		SN75109	Differential, Current Mode	NO
SN55110A	Dual Line Driver	2		SN75110	Differential, Current Mode	YES
SN75110A	Dual Line Driver	2		SN75110	Differential, Current Mode	NO
SN75112	Dual Line Driver	2		SN75112	Differential, Current Mode	NO
SN55113	Dual Differential Line Driver	2		SN75113	Differential, Voltage Mode	YES
SN75113	Dual Differential Line Driver	2		SN75113	Differential, Voltage Mode	NO
SN55114	Dual Differential Line Driver	2		SN75114	Differential, Voltage Mode	YES
SN75114	Dual Differential Line Driver	2		SN75114	Differential, Voltage Mode	NO
AM26LS33A	Quadruple Differential Line Receiver		4	AM26LS32	Differential, -15 < VICM < 15 V	BOTH
DS8820A	Dual Differential Line Receiver		2	DS8820	Differential, -15 < VICM < 15 V	NO
SN55182	Dual Differential Line Receiver		2	DS8820	Differential, -15 < VICM < 15 V	NO
SN75182	Dual Differential Line Receiver		2	DS8820	Differential, -15 < VICM < 15 V	NO
SN55107A	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75107A	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN55107B	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75107B	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75207	Dual Sense Amp for MOS Memories or Dual High-sensitivity Line Rec		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75207B	Dual Sense Amp for MOS Memories or Dual High-sensitivity Line Rec		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN55108A	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75108A	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN55108B	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN75108B	Dual Line Receiver		2	SN75107	Differential, -6 < VICM < 6 V	NO
SN55115	Dual Differential Line Receiver		2	SN75115	Differential, -15 < VICM < 15 V	YES
SN75115	Dual Differential Line Receiver		2	SN75115	Differential, -15 < VICM < 15 V	NO
SN75140	Dual Line Receiver		2	SN75140	Single Ended	NO
SN75141	Dual Line Receiver		2	SN75140	Single Ended	NO
AM26S10	Quadruple Bus Transceiver	4	4	AM26S10	Single Ended, Open Collector	NO
AM26S11	Quadruple Bus Transceiver	4	4	AM26S11	Single Ended, Open Collector	NO
SN55138	Quadruple Bus Transceiver	4	4	SN75138	Single Ended, Open Collector	YES
SN75138	Quadruple Bus Transceiver	4	4	SN75138	Single Ended, Open Collector	NO
SN55116	Differential Line Transreceiver	1	1	SN75116	Differential, -15 < VICM < 15 V	YES
SN75116	Differential Line Transreceiver	1	1	SN75116	Differential, -15 < VICM < 15 V	NO
SN75117	Differential Line Transreceiver	1	1	SN75117	Differential, 0 < VICM < 6 V	NO
SN75118	Differential Line Transreceiver	1	1	SN75118	Differential, -15 < VICM < 15 V	NO

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datasheets at: www.ti.com/sc/sine-on

UARTs Selection Guide

Part Number	Description	FIFOs	Packages	Operating Voltage	Characterized Temperature
TL16C450	Single UART	None	40 DIP, 44 PLCC	5 V	0°C to 70°C
TL16C451	Single UART plus parallel port	None	68 PLCC	5 V	0°C to 70°C
TL16C452	Dual UART plus parallel port	None	68 PLCC	5 V	0°C to 70°C
TL16C550A	Single UART	16-Byte	40 DIP, 44 PLCC	5 V	0°C to 70°C
TL16C550B	Single UART	16-Byte	40 DIP, 44 PLCC, 48 TQFP	5 V	0°C to 70°C -40°C to 85°C (N/A on DIP)
TL16C550C	Single UART w/ Auto Flow Control	16-Byte	40 DIP, 44 PLCC, 48 TQFP	5 V	0°C to 70°C -40°C to 85°C (N/A on DIP)
TL16C552A	Dual UART w/ bi-directional line-printer port	16-Byte	68 PLCC	5 V	-10°C to 70°C
TL16C554	Quad UART	16-Byte	68 PLCC	5 V	0°C to 70°C -40°C to 85°C
TL16C750	Single UART w/ Auto Flow control and low power modes	64-Byte	44 PLCC, 64 TQFP	5 V & 3 V	0°C to 70°C -40°C to 85°C (on TQFP only)
TL16PC564A	Single UART w/ PCMCIA interface	64-Byte	100 TQFP	5 V	0°C to 70°C
TL16PC564B/BLV	Single UART w/ PCMCIA interface	64-Byte	100 TQFP	5 V & 3.3 V / 5 V & 3 V	0°C to 70°C
TL16PNP100A	Standalone PnP controller, supports 2 logical devices	NA	44 PLCC, 48 TQFP	5 V	0°C to 70°C
TL16PNP200A	Standalone PnP controller, supports 5 logical devices	NA	80 QFP	5 V	0°C to 70°C
TL16PNP550A	Single UART plus PnP controller	16-Byte	68 PLCC	5 V	0°C to 70°C
TL16PIR552	Dual UART w/ IR and 1284 modes	16-Byte	80 QFP	5 V	0°C to 70°C

New device options shown in blue.

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Texas Instruments Data Transmission Cross Reference

Part No	Suggested TI Replacement	Vendor	Replacement Type	Part No	Suggested TI Replacement	Vendor	Replacement Type
ADM1485A	SN75LBC176	Analog Devices	Q	LT1330	SN75LV4737A	Linear Technology	Q
ADM1485J	SN75LBC176	Analog Devices	Q	LT1341	SN75LV4737A	Linear Technology	Q
ADM202	MAX232	Analog Devices	F	LT1342	SN75LV4737A	Linear Technology	S
ADM203	MAX232	Analog Devices	S	LT1381	MAX232	Linear Technology	P
ADM208	SN75186	Analog Devices	P	LT1389	SN75LBC777	Linear Technology	Q
ADM211	SN75LBC241	Analog Devices	P	LT1537	SN75LBC107	Linear Technology	S
ADM223	SN75LBC241	Analog Devices	P	LTC1337	SN75LBC107	Linear Technology	Q
ADM232A	MAX232I	Analog Devices	F	LTC1348	SN75LV4737A	Linear Technology	S
ADM231L	MAX232	Analog Devices	S	LTC1349	SN75LBC187	Linear Technology	S
ADM232L	MAX232	Analog Devices	Q	LTC1382	MAX232	Linear Technology	S
ADM238L	SN75186	Analog Devices	S	LTC1383	MAX232	Linear Technology	Q
ADM241LJ	SN75LBC241	Analog Devices	P	LTC1384	MAX232	Linear Technology	S
ADM485A	SN65LBC176	Analog Devices	Q	LTC1485	SN75LBC176	Linear Technology	Q
ADM485J	SN75LBC176	Analog Devices	Q	LTC1487	SN75LBC176	Linear Technology	Q
GD75232	SN75185	Gold Star	S	LTC1518	SN75LBC173	Linear Technology	P
GD75323	SN75196	Gold Star	Q	LTC1519	SN75LBC175	Linear Technology	P
HSDL7000	TIR1000	Hewlett-Packard	Q	LTC1520	SN65LVDS32	Linear Technology	F
LT1030CS	SN75C188	Linear Technology	Q	LTC1685	SN75276	Linear Technology	P
LT1032	SN75C188	Linear Technology	Q	LTC1686	SN75276	Linear Technology	Q
LT1039	TL145406	Linear Technology	P	LTC485	SN75LBC176	Linear Technology	P
LT1081A	MAX232	Linear Technology	P	LTC486	SN75LBC172	Linear Technology	P
LT1133	SN75LBC187	Linear Technology	Q	LTC487	SN75LBC174	Linear Technology	P
LT1134A	SN75186	Linear Technology	S	LTC488	SN75LBC173	Linear Technology	P
LT1136A	SN75LBC241	Linear Technology	Q	LTC489	SN75LBC175	Linear Technology	P
LT1137	SN75LBC187	Linear Technology	Q	LTC490	SN75LBC179	Linear Technology	P
LT1141	SN75LBC187	Linear Technology	S	LTC491	SN75LBC180	Linear Technology	P
LT1181	MAX232	Linear Technology	P	MAX202	MAX232	Maxim	P
LT1237	SN75LV4737A	Linear Technology	Q	MAX203	MAX232	Maxim	S
LT1281	MAX232	Linear Technology	P	MAX208	SN75186	Maxim	S

Replacement Types

- F** The device is an EXACT EQUIVALENT in functionality and parametrics to the competitors device
- P** The device has the SAME FUNCTIONALITY AND PINOUT as the competitors device but is NOT an exact equivalent
- Q** The device has the SAME FUNCTIONALITY as the competitors device, but is not pin-for-pin and/or parametrically equivalent
- S** The device has SIMILAR FUNCTIONALITY but is not functionally equivalent to the competitors device
- X** No listed TI device

This cross reference to TI's Mixed Signal and Analog Products lists suggested replacements for many other manufacturers' devices. It is intended to be a guide only. It is the designer's responsibility to compare specifications as they relate to an application to determine if the TI device suggested is an acceptable substitute.

Texas Instruments Data Transmission Cross Reference

Part No	Suggested TI Replacement	Vendor	Replacement Type	Part No	Suggested TI Replacement	Vendor	Replacement Type
MAX209	SN75185	Maxim	S	MC1489A	SN75189A	Motorola	P
MAX211	SN75LBC241	Maxim	S	MC14C89B	SN75C189	Motorola	F
MAX212	SN75LV4737A	Maxim	P	MC14C89AB	SN75C189A	Motorola	F
MAX216	SN75LBC771	Maxim	S	MC26LS31	AM26LS31	Motorola	P
MAX232	MAX232	Maxim	P	MC26S10	AM26S10	Motorola	P
MAX237	SN75196	Maxim	P	MC34050	SN751177	Motorola	P
MAX238	SN75185	Maxim	S	MC34050	SN75C1167	Motorola	Q
MAX241	SN75LBC241	Maxim	P	MC34050	SN75ALS1177	Motorola	Q
MAX481	SN75LBC176	Maxim	P	MC34051	SN75ALS1170	Motorola	Q
MAX483	SN75LBC176	Maxim	Q	MC34051	SN751178	Motorola	P
MAX485	SN75LBC176	Maxim	Q	MC34051	SN75C1168	Motorola	Q
MAX487	SN75LBC176	Maxim	Q	MC3453	SN75110A	Motorola	Q
MAX488	SN75LBC179	Maxim	Q	MC3481	SN75126	Motorola	F
MAX489	SN75LBC180	Maxim	Q	MC3485	SN75130	Motorola	P
MAX490	SN75LBC179	Maxim	P	MC3486	MC3486	Motorola	F
MAX491	SN75LBC180	Maxim	P	MC3486	SN75ALS175	Motorola	P
MAX1406	TL145406	Maxim	P	MC3486	SN75175	Motorola	F
MAX1488E	SN75C188	Maxim	P	MC3486	SN75LBC175	Motorola	F
MAX1489E	SN75C189	Maxim	P	MC3486	SN75ALS195	Motorola	P
MAX3185	SN75C185	Maxim	P	MC3486	SN75ALS199	Motorola	P
MAX3186	SN75196	Maxim	Q	MC3487	MC3487	Motorola	F
AM26LS31	AM26LS31C	Motorola	F	MC3487	SN75174	Motorola	P
AM26LS32	AM26LS32A	Motorola	P	MC3487	SN75ALS174A	Motorola	P
MC145403	SN75C185	Motorola	Q	MC3487	SN75LBC174	Motorola	P
MC145404	SN75C1154	Motorola	P	MC3487	SN75ALS194	Motorola	P
MC145405	SN75196	Motorola	P	MC3488A	uA9636AC	Motorola	P
MC145406	TL145406	Motorola	P	MC75107	SN75107A	Motorola	F
MC145406	SN75C1406	Motorola	P	MC75107	SN75107B	Motorola	P
MC145583	SN75LV4737A	Motorola	Q	MC75108	SN75108A	Motorola	F
MC1488	SN75188	Motorola	F	MC75108	SN75108B	Motorola	P
MC1488	SN75C188	Motorola	P	MC75128	SN75128	Motorola	F
MC1488	MC1488	Motorola	P	MC75129	SN75129	Motorola	F
MC14C88	SN75C188	Motorola	F	MC75172B	SN75172	Motorola	F
MC1489	MC1489	Motorola	P	MC75172	SN75ALS172	Motorola	P
MC1489	SN75189	Motorola	F	MC75173	SN75173	Motorola	P
MC1489A	MC1489A	Motorola	P	MC75173	SN75ALS173	Motorola	P

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Texas Instruments Data Transmission Cross Reference

Part No	Suggested TI Replacement	Vendor	Replacement Type	Part No	Suggested TI Replacement	Vendor	Replacement Type
MC75174	SN75ALS174	Motorola	P	DS26LS31C	AM26LS31C	Nat'l Semiconductor	F
MC75174B	SN75174	Motorola	F	DS26LS31C	SN75ALS192	Nat'l Semiconductor	P
MC75175	SN75175	Motorola	P	DS26C32AT	AM26C32I	Nat'l Semiconductor	F
MC75175	SN75ALS175	Motorola	P	DS26C32AM	AM26C32M	Nat'l Semiconductor	F
MC75S110	SN75110A	Motorola	P	DS26F32C	AM26LS32AC	Nat'l Semiconductor	F
SN75172	SN75172	Motorola	P	DS26F32C	SN75ALS193	Nat'l Semiconductor	P
SN75173	SN75173	Motorola	F	DS26LS32C	AM26LS32AC	Nat'l Semiconductor	F
SN75175	SN75175	Motorola	F	DS26LS32M	AM26LS32AM	Nat'l Semiconductor	F
DS14185	SN75185	Nat'l Semiconductor	P	DS26LS32AC	AM26LS32AC	Nat'l Semiconductor	F
DS14185	SN75C185	Nat'l Semiconductor	F	DS26LS32C	SN75ALS193	Nat'l Semiconductor	P
DS14196	SN75196	Nat'l Semiconductor	P	DS26LS33M	SN75ALS194	Nat'l Semiconductor	P
DS1488	SN75188	Nat'l Semiconductor	F	DS26LS33M	AM26LS33AM	Nat'l Semiconductor	F
DS1488	SN75C188	Nat'l Semiconductor	P	DS26LS33AC	SN75ALS195	Nat'l Semiconductor	P
DS14C88	SN75C188	Nat'l Semiconductor	F	DS26LS33AC	AM26LS33AC	Nat'l Semiconductor	F
DS14C88T	SN65C188	Nat'l Semiconductor	F	DS26LS33C	AM26LS33AC	Nat'l Semiconductor	P
DS1489	SN75189	Nat'l Semiconductor	P	DS26S10	AM26S10	Nat'l Semiconductor	F
DS1489	SN75C189	Nat'l Semiconductor	P	DS26S11	AM26S11	Nat'l Semiconductor	F
DS1489A	SN75189A	Nat'l Semiconductor	F	DS3486	MC3486	Nat'l Semiconductor	F
DS1489A	SN75C189A	Nat'l Semiconductor	P	DS3486	SN75ALS195	Nat'l Semiconductor	P
DS14C89	SN75C189	Nat'l Semiconductor	F	DS3487	MC3487	Nat'l Semiconductor	F
DS14C89A	SN75C189	Nat'l Semiconductor	F	DS3487	SN75ALS194	Nat'l Semiconductor	P
DS14C89A	SN75C189A	Nat'l Semiconductor	F	DS34C86	SN75ALS195	Nat'l Semiconductor	P
DS14C89AT	SN65C189	Nat'l Semiconductor	F	DS34C86	SN75LBC175	Nat'l Semiconductor	P
DS14C89AT	SN65C189A	Nat'l Semiconductor	F	DS34C87	SN75ALS194	Nat'l Semiconductor	P
DS14C232C	MAX232	Nat'l Semiconductor	F	DS34C87	SN75LBC174	Nat'l Semiconductor	P
DS14C232T	MAX232I	Nat'l Semiconductor	F	DS34F86	SN75ALS195	Nat'l Semiconductor	P
DS14C238	SN75186	Nat'l Semiconductor	Q	DS34F87	SN75ALS194	Nat'l Semiconductor	P
DS14C241	SN75LBC241	Nat'l Semiconductor	F	DS35F86	SN55ALS195	Nat'l Semiconductor	P
DS14C335	SN75LV4735	Nat'l Semiconductor	P	DS35F87	SN55ALS194	Nat'l Semiconductor	P
DS14C535	SN75LV4737A	Nat'l Semiconductor	P	DS36276	SN75276	Nat'l Semiconductor	P
DS14C88	SN75C188	Nat'l Semiconductor	S	DS36C278	SN65LBC176	Nat'l Semiconductor	P
DS26C31T	AM26C31	Nat'l Semiconductor	F	DS36C279	SN65LBC176	Nat'l Semiconductor	Q
DS26C31M	AM26C31M	Nat'l Semiconductor	F	DS3650	AM26LS32A	Nat'l Semiconductor	P
DS26F31C	AM26LS31C	Nat'l Semiconductor	F	DS3652	AM26LS33A	Nat'l Semiconductor	P
DS26F31C	SN75ALS192	Nat'l Semiconductor	P	DS3695	TL3695	Nat'l Semiconductor	F
DS26F31M	SN55ALS192	Nat'l Semiconductor	P	DS3895A	SN75ALS176B	Nat'l Semiconductor	Q

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Texas Instruments Data Transmission Cross Reference

Part No	Suggested TI Replacement	Vendor	Replacement Type	Part No	Suggested TI Replacement	Vendor	Replacement Type
DS36F95	SN75ALS176	Nat'l Semiconductor	P	DS8830	SN75183	Nat'l Semiconductor	P
DS3893	SN75ALS053	Nat'l Semiconductor	P	DS8832	SN75183	Nat'l Semiconductor	P
DS3896	SN75ALS056	Nat'l Semiconductor	P	DS8921	SN75179	Nat'l Semiconductor	P
DS3897	SN75ALS057	Nat'l Semiconductor	P	DS8925	SN75LBC771	Nat'l Semiconductor	S
DS55107	SN55107B	Nat'l Semiconductor	F	DS8935	SN75LBC771	Nat'l Semiconductor	S
DS55108	SN55108B	Nat'l Semiconductor	F	DS89C21	SN75LBC179	Nat'l Semiconductor	P
DS55110A	SN55110A	Nat'l Semiconductor	F	DS90LV031	SN65LVDS31	Nat'l Semiconductor	Q
DS55113	SN55113	Nat'l Semiconductor	F	DS90LV032	SN65LVDS32	Nat'l Semiconductor	P
DS75107	SN75107A	Nat'l Semiconductor	F	DS9614	SN55114	Nat'l Semiconductor	F
DS75108	SN75108A	Nat'l Semiconductor	F	DS9615	SN55115	Nat'l Semiconductor	F
DS75110A	SN75110A	Nat'l Semiconductor	F	DS96172	SN75172	Nat'l Semiconductor	F
DS75113	SN75113	Nat'l Semiconductor	F	DS96F172C	SN75ALS172	Nat'l Semiconductor	P
DS75114	SN75114	Nat'l Semiconductor	F	DS96173C	SN75173	Nat'l Semiconductor	F
DS75115	SN75115	Nat'l Semiconductor	F	DS961F173C	SN75ALS173	Nat'l Semiconductor	P
DS75123	SN75123	Nat'l Semiconductor	F	DS96174C	SN75174	Nat'l Semiconductor	P
DS75124	SN75124	Nat'l Semiconductor	F	DS96F174C	SN75ALS174	Nat'l Semiconductor	P
DS75128	SN75128	Nat'l Semiconductor	F	DS96175C	SN75175	Nat'l Semiconductor	F
DS75129	SN75129	Nat'l Semiconductor	F	DS96F175C	SN75ALS175	Nat'l Semiconductor	P
DS75150	SN75150	Nat'l Semiconductor	F	DS96176	SN75176	Nat'l Semiconductor	P
DS75154	SN75154	Nat'l Semiconductor	F	DS9636AC	μ A9636AC	Nat'l Semiconductor	F
DS75160A	SN75160B	Nat'l Semiconductor	F	DS9637AC	μ A9637AC	Nat'l Semiconductor	F
DS75161A	SN75161B	Nat'l Semiconductor	F	DS9637AC	SN75146	Nat'l Semiconductor	P
DS75162	SN75162	Nat'l Semiconductor	F	DS9638C	μ A9638C	Nat'l Semiconductor	F
DS75176	SN75176A	Nat'l Semiconductor	P	DS9638C	SN75ALS191	Nat'l Semiconductor	P
DS75176	SN75176B	Nat'l Semiconductor	P	DS9639AC	μ A9639C	Nat'l Semiconductor	F
DS75176	SN76176	Nat'l Semiconductor	F	DS9639AC	SN75146	Nat'l Semiconductor	P
DS75176	SN75LBC176	Nat'l Semiconductor	P	DS96F172C	SN75ALS172A	Nat'l Semiconductor	F
DS75176B	SN75176B	Nat'l Semiconductor	P	DS96F173C	SN75ALS173	Nat'l Semiconductor	F
DS75176BT	SN65176B	Nat'l Semiconductor	F	DS96F174C	SN75ALS174A	Nat'l Semiconductor	F
DS75176BT	SN65ALS176	Nat'l Semiconductor	P	DS96F175C	SN75ALS175	Nat'l Semiconductor	F
DS75208	SN75108B	Nat'l Semiconductor	P	ST16C550	TL16C550C	Startech	P
DS7820A	SN55182	Nat'l Semiconductor	F	ST16C552	TL16C552A	Startech	P
DS7830	SN55183	Nat'l Semiconductor	F	ST16C650	TL16C750	Startech	S
DS8820	DS8820A	Nat'l Semiconductor	P				
DS8820A	SN75182	Nat'l Semiconductor	F				
DS8830	DS8830	Nat'l Semiconductor	F				

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Texas Instruments Data Transmission Ordering Guide

SN 75 LBC 176 A C D LE

Prefix SN, LT, UA, AM, MAX, TC, MC

Temperature Range

75	Commercial (0°C to 70°C)
65	Industrial or extended (-40°C to 85°C)
55	Military (-55°C to 125°C)

Process Technology

LVDS: Low voltage differential signaling
LBC: Lin BICMOS
ALS: Advanced low-power Schottky
C: CMOS

Device Number

Optional Suffix Designating tighter specs or a device revision

Temperature Suffix

C: Commercial 0°C to 70°C
I: Industrial -40°C to 85°C
M: Military -55°C to 125°C

Package Suffix

D, DW: Small-Outline Package (SOIC)
DB, DL: Shrink Small-Outline Package (SSOP)
DGG: Plastic Thin Small-Outline Package (TSSOP)
FK: Leadless Ceramic Chip-Carrier Package (LCCC)
J: Ceramic Dual-In-Line Package (CDIP)
JG: Glass-Sealed Ceramic Dual-In-Line Package (CERDIP)
N, NT, P: Plastic Dual-In-Line Package (PDIP)
NS, PS: Small-Outline Package (SOP)
W: Ceramic Flat Package (CFP)

Optional Carrier Suffix

LE: Available only Left-End Taped and Reeled
R: Available Taped and Reeled

Datasheets at: www.ti.com/sc/sine-on and download